

What is claimed is:

1. A three-dimensional image display device,
comprising:

5 a display panel where a plurality of pixel sections,
which include pixels displaying an image for the right eye
and pixels displaying an image for the left eye, are arrayed
in a matrix state; and

optical unit that emits light emitted from the pixels
displaying said image for the right eye and light emitted
10 from the pixels displaying said image for the left eye in
directions different from each other,

wherein when the distance between the most distant
point from said display panel in a three-dimensional visible
range, where the light emitted from the pixels displaying
15 said image for the right eye is made incident to said right
eye and the light emitted from the pixels displaying said
image for the left eye is made incident to said left eye by
positioning a midpoint between a viewer's right eye and left
eye in the range, and said display panel is set to D (mm),
20 and the definition of said pixel sections in at least one
array direction out of the array directions of said pixel
sections of said display panel is set to X (dpi), said
distance D and said definition X satisfy the following
expression.

$$X \geq \frac{25.4}{D \times \tan(1')}$$

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2. The three-dimensional image display device

according to Claim 1, wherein when the definition of said pixel sections in another array direction, which crosses said one array direction out of the array directions of said pixel sections, is set to $Y(\text{dpi})$, said distance D and said
5 definition Y satisfy the following expression.

$$Y \geq \frac{25.4}{D \times \tan(1')}$$

3. The three-dimensional image display device according to Claim 1, wherein said display panel is a liquid crystal display panel.

10 4. The three-dimensional image display device according to Claim 1, wherein said optical unit is a parallax barrier where a plurality of slits, which are arranged for each row of said pixel sections and extend along an extending direction of the row, are formed.

15 5. The three-dimensional image display device according to Claim 1, wherein said optical unit is a lenticular lens that is arranged on the viewer side of said display panel, provided with a plurality of cylindrical lenses arranged for each row of said pixel sections and
20 extended along an extending direction of the row.

6. A three-dimensional image display device, comprising:

a display panel where a plurality of pixel sections, which include pixels displaying an image for the right eye
25 and pixels displaying an image for the left eye, are arrayed in a matrix state; and

optical unit that emits light emitted from the pixels displaying said image for the right eye and light emitted from the pixels displaying said image for the left eye in directions different from each other,

5 wherein the distance between the most distant point from said display panel in a three-dimensional visible range, where the light emitted from the pixels displaying said image for the right eye is made incident to said right eye and the light emitted from the pixels displaying said image
10 for the left eye is made incident to said left eye by positioning a midpoint between a viewer's right eye and left eye in the range, and said display panel is 500mm or more, and the definition of said pixel sections in at least one array direction out of the array directions of said pixel
15 sections is 175 dpi or more.

7. The three-dimensional image display device according to Claim 6, wherein the definition of said pixel sections in another array direction, which crosses said one array direction out of the array directions of said pixel
20 sections, is 175 dpi or more.

8. The three-dimensional image display device according to Claim 6, wherein said display panel is a liquid crystal display panel.

9. The three-dimensional image display device
25 according to Claim 6, wherein said optical unit is a parallax barrier where a plurality of slits, which are arranged for each row of said pixel sections and extend along an extending direction of the row, are formed.

10. The three-dimensional image display device according to Claims 6, wherein said optical unit is a lenticular lens that is arranged on the viewer side of said display panel, provided with a plurality of cylindrical
5 lenses arranged for each row of said pixel sections and extended along an extending direction of the row.

11. The three-dimensional image display device according to Claim 1, wherein said device displays a three-dimensional moving picture.

10 12. The three-dimensional image display device according to Claim 1, wherein said device is mounted in a portable device.

13. The three-dimensional image display device according to Claim 12, wherein said portable device is any
15 one of a cellular phone, a portable terminal, a PDA, a game device, a digital camera, and a digital video camera.

14. A three-dimensional image display method, in which one pixel included in each pixel section, a plurality of said pixel sections arrayed in a matrix state on a
20 display panel, displays an image for the right eye and the other pixel displays an image for the left eye, optical unit emits light emitted from the pixels displaying said image for the right eye and light emitted from the pixels displaying said image for the left eye in directions
25 different from each other, and a viewer positions a midpoint between the right eye and the left eye in a three-dimensional visible range where the light emitted from the pixels displaying said image for the right eye is made

incident to said right eye and the light emitted from the pixels displaying said image for the left eye is made incident to said left eye,

wherein when the distance between said midpoint and
5 said display panel is set to D (mm) and the definition of said pixel sections in at least one array direction out of the array directions of said pixel sections of said display panel is set to X (dpi), said distance D and said definition X satisfy the following expression.

$$X \geq \frac{25.4}{D \times \tan(1')}$$

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15. The three-dimensional image display method according to Claim 14, wherein when the definition of said pixel sections in another array direction, which crosses said one array direction out of the array directions of said
15 pixel sections, is set to Y(dpi), said distance D and said definition Y satisfy the following expression.

$$Y \geq \frac{25.4}{D \times \tan(1')}$$

16. The three-dimensional image display method according to Claim 14, wherein a liquid crystal display
20 panel is used as said display panel.

17. The three-dimensional image display method according to Claim 14, wherein a parallax barrier where a plurality of slits, which are arranged for each row of said pixel sections and extend along an extending direction of

the row, are formed is used as said optical unit.

18. The three-dimensional image display method according to Claims 14, wherein a lenticular lens that is arranged on the viewer side of said display panel, provided
5 with a plurality of cylindrical lenses arranged for each row of said pixel sections and extended along an extending direction of the row, is used as said optical unit.

19. A three-dimensional image display method, in which one pixel included in each pixel section, a plurality
10 of said pixel sections arrayed in a matrix state on a display panel, displays an image for the right eye and the other pixel displays an image for the left eye, optical unit emits light emitted from the pixels displaying said image for the right eye and light emitted from the pixels
15 displaying said image for the left eye in directions different from each other, and a viewer positions a midpoint between the right eye and the left eye in a three-dimensional visible range where the light emitted from the pixels displaying said image for the right eye is made
20 incident to said right eye and the light emitted from the pixels displaying said image for the left eye is made incident to said left eye,

wherein the distance between said midpoint and said display panel is set to 500mm or more, and the definition of
25 said pixel sections in at least one array direction out of the array directions of said pixel sections of said display panel is set to 175 dpi or more.

20. The three-dimensional image display method

according to Claim 19, wherein the definition of said pixel sections in another array direction, which crosses said one array direction out of the array directions of said pixel sections, is set to 175 dpi or more.

5 21. The three-dimensional image display method according to Claim 19, wherein a liquid crystal display panel is used as said display panel.

 22. The three-dimensional image display method according to Claims 19, wherein a parallax barrier where a
10 plurality of slits, which are arranged for each row of said pixel sections and extend along an extending direction of the row, are formed is used as said optical unit.

 23. The three-dimensional image display method according to Claims 19, wherein a lenticular lens that is
15 arranged on the viewer side of said display panel, provided with a plurality of cylindrical lenses arranged for each row of said pixel sections and extended along an extending direction of the row, is used as said optical unit.

 24. The three-dimensional image display method
20 according to Claim 14, wherein said method displays a three-dimensional moving picture.